

Effect of ammonium and nitrate ions on the formation
in the plant of products of different degrees of oxidation.
L. S. Lyubarskaya. *Chemization Socialist. Agr. (U. S. S. R.)* 8, No. 4, 43-44 (1959); *Chem. & Industry* 43, 415.
The form of the N greatly influences the crop yield of kok-
saghyz and the rubber content of the plant. Nitrates ensure
a good yield of org. matter, accumulation of rubber in the
roots is max. with NH_4 fertilization. Mixed NH_4 and
nitrate fertilization produces the largest root drop. Nitrates
also produce the largest flax crops, but, on the other hand,
the oil content of the plant does not depend on the form
of N fertilization. A. Papman-Couture.

ASB 51A METALLURGICAL LITERATURE CLASSIFICATION

CA 15

The response of sugar beets to side dressing with nitrogenous fertilizers. I. S. Lyubarskaya. *Chemisation Socialistic Agr.* (U. S. S. R.) 10, No. 1, 29-37(1911).-- Soon after side dressing, 5 to 10 days, the response was measurable in terms of increased total N as protein in the tissues of leaves, and both as protein and as inorg. NH₄ in the petioles and roots. Sol. sugars decreased during the period of the effect of the side dressing in all parts of the plant. Application of N in the early stages of growth was more effective. I. S. Joffe

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

LYUBARSKAYA, L. S.

Lyubarskaya, L. S. - "Peculiarities of feeding sugar beets during the growth period", (Results of experiments over the five years 1936-1940), Trudy (Vsesoyuz. nauch.--issled. in-t sveklovich, polevodstva), Issue 2, 1949, p. 122-52, - Bibliog: 31 items.

SO: U-4110, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 19, 1949).

110

(A

A method for determination of photosynthesis and respiration in whole plants. L. S. Lyubarskaya and B. N. Makarov (Vsesoyuz. Nauch.-Issledovatel. Inst. Svyklovich. Poleyvolstva). *Doklady Akad. Nauk S.S. S.R.* 71, 167-70(1950). Glass "houses" of 180-200 square dm. size are used; these are provided with gas-tight sliding walls with provisions for taking gas samples. H_2O -absorbents are readily placed within the enclosure. Air mixing is done by elastic rubber bulbs inserted through the walls, and gas samples are taken by aspiration. Typical results are given in tabular form for sugar-beet expts.
G. M. Kosolapoff

CA

11D

The effect of soil moisture under different nutrition conditions on the intensity of photosynthesis in sugar beet. L. S. Lyubarskaya. *Doklady Akad. Nauk S.S.S.R.* 72, 687-90(1960).—A temporary decrease of soil moisture reduced the development of leafy parts of the beet, increased drying-out and dying of leaves and lowered photosynthesis intensity. The results are considerably affected by nutrients; K, especially, when present in above normal amounts, increases the disperseness of the protoplasmic matter and its water retentivity, thus aiding the assimilative functions and keeping the plant near normal in spite of lowered H₂O supply; P has a similar but less pronounced effect. G. M. Kosolapoff

LYUBARSKAYA, L.S.

KRUT'YEV, K.U.; LYUBARSKAYA, L.S.

Experience in the operation of filter traps used for purifying wood liquor. Gidroliz. i lesokhim. prom. 8 no.1:20-21 '55. (MIRA 8:10)

1. Leningradskiy gidroliznyy zavod
(Filters and filtration) (Wood distillation)

RUBIN, Boris Anisimovich; LYUBARSKAYA, Liya Samuilovna; GULIDOVA, Irina Vasil'yevna; SISAKYAN, N.M., prof., otv.red.; KLESHNIN, A.P., red. izd-va; BRUZGUL', V.V., tekhn.red.

[Physiologico-biochemical characteristics of the sugar beet] Fiziologo-biokhimicheskie osobennosti sakharnoi svekly. Moskva, Izd-vo Akad.nauk SSSR, 1960. 110 p. (MIRA 13:3)

1. Chlen-korrespondent AN SSSR (for Sisakyan).
(Sugar beets)

L 19793-65 Pb-4 AS(mp)-2/AND

ACCESSION NR: AR4045768

S/0299/64/000/013/M017/M017

SOURCE: Ref. zh. Biologiya. Svochny* tom, Abs. 13M106

AUTHOR: Novikov, B. G.; Lyubarskaya, M. A.

TITLE: A comparative evaluation of liquid oxygen and liquid helium action on isolated gonads before transplantation to domestic sparrows

CITED SOURCE: Sb. 3 Vses. konferentsiya po peresadke tkaney i organov, 1963. Yerevan, 1963, 161-162

TOPIC TAGS: sparrow, gonad, transplantation, testis, oxygen, helium, freezing, low temperature, liquid oxygen, liquid helium, preservation

TRANSLATION: Experiments were staged in the fall when testes of sparrows are in an inactive state and weigh 2 to 3 mg. In the 1st series testes were frozen for 30 min in liquid helium (-269°C), in the 2nd series in liquid oxygen, in the 3d series in liquid helium with a protective medium (8 mol of ethylene glycol), in the 4th series in liquid oxygen with a protective medium, and the 5th series served as a control. After thawing, the testes were transplanted into the

Card 1/2

L 19793-65
ACCESSION NR: AR4045768

body cavities of the castrated males. In all experimental series, birds were exposed to 16 hrs of sunlight daily for 50 days after the operation to stimulate the transplanted gonads. In the control series accretion took place in 96% of the experiments, spermatogenesis was completely restored, and weight of testes reached 145 mg by the end of the experiment. Testes did not accrete after being frozen in helium, testes did accrete in 32% of the cases after being frozen in oxygen, but the gonads were sterile. Results were considerably improved with the use of a protective medium: accretion was found in 83% of the cases after freezing in helium and 91% of the cases after freezing in oxygen. Spermatogenesis was found in most cases, and testes increased considerably in size by the end of the experiment, but not as much as control testes.

SUB CODE: LS

ENCL: 00

Cord 2/2

CHEPINOGA, O.P. [Chepynoha, O.P.]; NOVIKOV, B.G. [Novykov, B.H.];
LYUBARSKAYA, M.A. [Liubars'ka, M.O.]; KHILOBOK, I.Yu.

Some characteristics of desoxyribonucleic acids from erythrocytes of ducks of various breeds under normal conditions and following reciprocal treatments with desoxyribonucleic acid preparations. Ukr.biokhim.zhur. 32 no.3:368-380 '60.

(MIRA 13:6)

1. Institute of Biochemistry of the Academy of Sciences of the Ukrainian S.S.R., Kiev and the Experimental Biology Department of Kiev State University.

(DESOXYRIBONUCLEIC ACID)

(HEREDITY)

NOVIKOV, B.G. [Novykov, B.H.]; CHEPINOGA, O.P. [Chepynoha, O.P.]; LYUBARSKAYA, M.A. [Liubars'ka, O.M.]; SERBA, R.M.; PTITSA, A.N. [Ptytsia, O.M.]

Some specific features of the desoxyribonucleic acid of erythrocytes and somatic characteristics of ducks during cross treatment with desoxyribonucleic acid preparations. Ukr. biokhim. zhur. 33 no.5: 633-645 '61. (MIRA 14:10)

1. Institutw of Physiology of Kiyev State University and Institute of Biochemistry of the Academy of Sciences of the Ukrainian S.S.R., Kiyev.

(DESOXYRIBONUCLEIC ACID)

NOVIKOV, B.G.; LYUBARSKAYA, M.A.

Resistance of bird gonads to low temperature. Dokl. AN SSSR
142 no.4:961-964 F '62. (MIRA 15:2)

1. Institut fiziologii zhivotnykh Kiyevskogo gosudarstvennogo
universiteta im. T.G.Shevchenko. Predstavleno akademikom
I.I.Shmal'gauzenom.

(Testicle)

(Cold—Physiological effect)

(Birds—Physiology)

NOVIKOV, B.G.; CHEPINOGA, O.P.; LYUBARSKAYA, M.A.

Effect of injection of heterogenic DNA in ducks. Zhur. ob.
biol. 22 no.4:317-320 J1-Ag '61. (MIRA 15:6)

1. Institute of Physiology, State University of Kiev, and
Institute of Biochemistry, Academy of Sciences of the Ukrainian
S.S.R.

(DESOXYRIBONUCLEIC ACID)
(DUCKS)

LYUBARSKAYA, M.A. [Liubars'ka, M.O.]

Survival and development of gonads after deep freezing in chicks
and ducks. Visnyk Kyiv.un. no.5. Ser.biol. no.2:98-105 '62.

(MIRA 16:5)

(TISSUES---PRESERVATION) (OVARIES---TRANSPLANTATION)
(TESTICLE---TRANSPLANTATION)

NOVIKOV, B.G.; CEPINOVA, O.P. (Chepinova, O.P.); LYUBARSKAYA, E.A.,
(Lyubarskaya, E.A.)

Effects of the injection of heterogeneous ADN in ducks.
Analele biol 16 no.1:19-23 Ja-F '62

X

LYUBARSKAYA, M.L.

Evaluation of a complexometric (trilonometric) method for the
determination of sulfates in water. Gig. i san. 21 no.11:86-88
N '56. (MIRA 10:2)

1. Iz Moskovskoy gorodskoy sanitarno-epidemiologicheskoy stantsii.
(WATER
sulfates, determ. method)
(SULFATES, determ.
in water, determ method)

NOVIKOV, B.G. [Novykov, B.H.]; MARTYNOVA, O.G. [Martynova, O.H.];
LYUBARSKAYA, M.O. [Liubars'ka, M.O.]; GRISHCHENKO, N.M.
[Hryshchenko, N.M.]; LAPSHINA, N.Yu. [Lapshyna, N.IU.]

Development and function of the thyroid gland and the anterior
lobe of the hypophysis in the embryonic period of life of
various poultry breeds. Visnyk Kyiv.un. no. 3. Ser. biol.
no. 1:97-107 '60. (MIRA 16:4)
(THYROID GLAND) (PITUITARY BODY) (EMBRYOLOGY--BIRDS)

LYUBARSKAYA, O.D.

Infestation of fishes with the pleuercoid *Diphyllbothrium latum*
(Linne, 1758) in the northern portion of the Kuybyshev Reservoir.
Zool. zhur. 41 no.4:628-629 Ap '62. (MIRA 15:4)

1. Department of Invertebrate Zoology, State University of Kazan.
(Kuybishev Reservoir--Fishes--Diseases and pests) (Tapeworms)

LYUBARSKAYA, O.D.

Nematodes of the common European water shrew (*Neomys fodiens*).
Zool. zhur. 41 no.6:833-839 Je '62. (MIRA 15:7)

1. Helminthological Laboratory, Academy of Sciences of the
U.S.S.R., Moscow.
(Tatar A.S.S.R.—Nematoda) (Tatar A.S.S.R.—Parasites—Shrews)

L 5373-66 EWT(d)/EWP(I) IJP(c) BC

ACC NR: AP5024580

SOURCE CODE: UR/0292/65/000/009/0031/0034

AUTHOR: Lyubarskaya, T. A. (Engr.)

ORG: none

TITLE: Design of higher-frequency rolling-rotor motors

SOURCE: Elektrotehnika, no. 9, 1965, 31-34

TOPIC TAGS: servomotor, rolling rotor motor

ABSTRACT: Generalities re rolling-rotor motors and the results of some experiments with them are reported. Depending on the accuracy of manufacture of the rolling surfaces involved and on the frequency (50, 400, 1000 cps) used, the actual motor speed may considerably deviate from its rated rpm. Hence, titanium is recommended for friction surfaces; its hardness and light weight are seen as principal advantages. The microellipticity of the bore due to uneven wear, foreign particles in the airgap, etc. result in an instability of the friction coefficient and in a variation of the instantaneous speed of the motor. Fundamental characteristics of laboratory models of the rolling-rotor motor⁹ (DTK and DTK-V)⁷ published earlier (Byulleten' izobreteniy, 1963, no. 17) are cited. Orig. art. has:

Card 1/2

UDC: 621.313.015.001.3


010/1158

L 5373-66

ACC NR: AP5024580

6 figures, 12 formulas, and 3 tables.

SUB CODE: IE, EE/ SUBM DATE: 00/ ORIG REF: 006/ OTH REF: 001


Card 2/2

1. LYUBARSKAYA, Ye. Ye.: EYDEL'SHTEYN, S. I.
2. USSR (600)
4. Antibiotics - Therapeutic Use
7. Use of antibiotics in the therapy of skin and venereal diseases. Antibiotiki, 5, no. 3, 1952.
9. Monthly List of Russian Accessions, Library of Congress, March 1953, Unclassified.

1. EYDEL'SHTEYN, S. I.; LYUBARSKAYA, YE. YE.
2. USSR (600)
4. Scarlatina
7. Use of penicilin in scarlet fever., Antibiotiki, 5, No.5, 1952.
9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

VASILEVSKIY, V.; LYUBARSKIY, A.

Progressive cultivation practices and educational process. Prof.-tekh.
obr. 21 no.6:10-11 Je '64. (MIRA 17:9)

1. Zamestitel' nachal'nika Leningradskogo oblastnogo upravleniya professional'no-tekhnicheskogo obrazovaniya (for Vasilevskiy). 2. Zaveduyushchiy Leningradskim oblastnym uchebno-metodicheskim kabinetom (for Lyubarskiy).

LYUBARSKIY, A.

Refrigerating equipment for the frozen food trade. Sov. org.
36 no.5:50-53 My '63. (MIRA 16:5)
(Self-service stores--Equipment and supplies)
(Cold storage lockers)

GRIN, G.; LYUBARSKIY, A.

New equipment of self-service stores abroad. Sov. torg. 33 no.7:
45-51 J1 '59. (MIRA 12:9)
(Store fixtures)

LYUBARSKIY, A.

Svet russkoi nauki (Light of Russian science). Tallin, Estongosizdat, 1952. 332 p.

SO: Monthly List of Russian Accessions, Vol. 6, No. 1, April 1953

LYUBARSKIY, A.

House of a thousand trifles. Sov. tovg. 35 no.6:52-55 Je '62.

(MIRA 15:7)

(Germany, East—Hardware stores)

LYUBARSKIY, A.

New features in the equipment of retail stores abroad. Sov. torg.
36 no.4:50-54 Ap '63. (MIRA 16:5)
(Retail trade) (Store fixtures)

KAZANSKIY, V.B.; YEZHKOVA, Z.I.; LYUBARSKIY, A.G.; VOYEVODSKIY, V.V.;
IOFFE, I.I.

Electron paramagnetic resonance study of the structure of
vanadium-molybdenum oxide catalysts. Kin.1 kat. 2 no.6:862-866
N-D '61. (MIRA 14:12)

1. Institut khimicheskoy fiziki AN SSSR i Institut organicheskikh
poluproduktov i krasiteley imeni K.Ye. Voroshilova.
(Catalysts--Spectra)

5.1190

28293
S/076/61/035/010/012/015
B106/B110

AUTHORS: Ioffe, I. I., Yezhkova, Z. I., Lyubarskiy, A. G. (Moscow)

TITLE: Catalytic activity of mixed vanadium oxide catalysts in
vapor phase oxidation of organic compounds

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 10, 1961, 2348 - 2351

TEXT: The authors studied the catalytic activity of vanadium oxide, molybdenum oxide, and vanadium oxide - chromium oxide catalysts in the vapor phase oxidation of benzene and that of vanadium oxide, molybdenum oxide, titanium oxide, phosphorus oxide catalysts in the vapor phase oxidation of furfural to maleic anhydride. The authors tempted to clarify the mechanism of the activating effect of oxide additions of other elements on the catalytic activity of vanadium pentoxide. The catalysts for furfural oxidation were produced by aspirant V. A. Slavinskaya (In-t organicheskogo sinteza AN Latv. SSR (Institute of Organic Synthesis of the Academy of Sciences Latviyskaya SSR)). The catalysts were analyzed by X-ray diffraction, moreover, catalytic activity and selectivity of the catalysts were determined in continuously circulating and in continuous

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S/076/61/035/010/012/015
B106/B110

Catalytic activity of...

flow plants. The authors thank V. V. Voyevodskiy and V. B. Kazanskiy for taking the epr spectra for part of the catalysts. The X-ray diffraction phase analyses were carried out in cameras of type ~~IKA~~ (RKD) with CrK α -radiation. The specimens were produced by evaporation of a mixture of solutions of corresponding oxalates and ammonium salts with subsequent heating to 400°C. Figs. 1 and 2 show the change of catalytic activity of the examined catalysts with the composition in the oxidation of benzene to maleic anhydride. A comparison of the determined phase compositions and the epr spectra with the activity of studied catalysts show that the increase of catalytic activity of mixed vanadium oxide catalysts is due to the increase of concentration of defects in the V₂O₅ lattice. These defects are caused by molybdenum, chromium or titanium atoms penetrating into the V₂O₅ lattice in the formation of solid solutions. When the tested V₂O₅-MoO₃ catalyst is annealed at high temperatures, a considerable deactivation occurs, since the oversaturated solid MoO₃ solution existing prior to annealing changes over into state of equilibrium, then having less MoO₃ and thus also fewer lattice defects. It is, therefore, probable that

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B106/B110

Catalytic activity of...

pure V_2O_5 can be successfully used as catalyst when the compound to be oxidized itself, e. g. naphthalene, causes a considerable concentration of defects in the V_2O_5 lattice (by forming a non-stoichiometric excess of vanadium). In other cases, however, oxides of other elements which form solid solutions with V_2O_5 must be added to vanadium pentoxide in order to create the required concentration of defects. Concentration and character of defects and thus also catalytic activity and selectivity of the catalyst can be varied within wide limits by variation of quantity and kind of additions. In order to substantiate the mentioned rules, further papers will study connections between activity and selectivity of vanadium oxide catalysts, on the one hand, and concentration of lattice defects, on the other hand. Also the crystallographic characteristics of oxides to be added to V_2O_5 will be determined. There are 2 figures, 1 table, and 7 references: 4 Soviet and 3 non-Soviet. The reference to the English-language publication reads as follows: K. Tarama, Sh. Teranishi, T. Vasui, J. Chem. Soc. Japan. Industr. Chem. Sect., 60, 1222, 1957. X

Card 3/4

Catalytic activity of...

20293 S/076/61/035/010/012/015
B106/B110

ASSOCIATION: Institut organicheskikh poluproduktov i krasiteley (Institute of Organic Semifinished Products and Dyes)

SUBMITTED: March 4, 1960

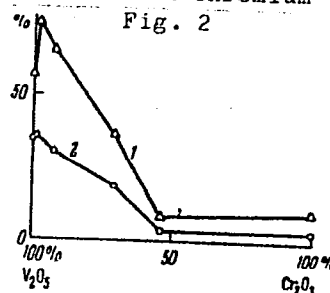
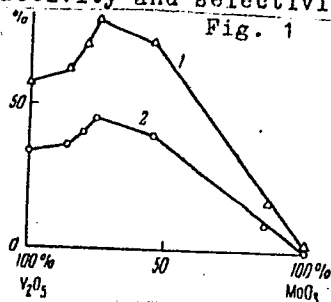
Fig. 1. Alteration of activity and selectivity of vanadium-molybdenum catalysts as dependent on the MoO_3 content

Legend: (1) Total conversion of C_6H_6 , (2) conversion of C_6H_6 into $\text{C}_4\text{H}_2\text{O}_3$.

Fig. 2. Alteration of activity and selectivity of vanadium-chromium catalysts as dependent on the Cr_2O_3 content

Legend: (1) Total conversion of C_6H_6 , (2) conversion of C_6H_6 into $\text{C}_4\text{H}_2\text{O}_3$.

Card 4/4



IOFFE, I.I.; YEZHKOVA, Z.I.; LYUBARSKIY, A.G.

Phase composition of mixed vanadium catalysts for the oxidation
of aromatic hydrocarbons. Kin.i kat. 3 no.2:194-200 Mr-Apr
'62. (MIRA 15:11)

1. Nauchno-issledovatel'skiy institut organicheskikh poluproduktov
i krasiteley imeni Voroshilova.
(Hydrocarbons) (Oxidation) (Vanadium oxides)

IOFFE, I.I.; LYUBARSKIY, A.G.

Kinetics of the catalytic oxidation of benzene to maleic anhydride.
Kin.i kat. 3 no.2:261-271 Mr-Ap '62. (MIRA 15:11)

1. Nauchno-issledovatel'skiy institut organicheskikh poluproduktov
i krasiteley imeni K.Ye.Voroshilova.
(Benzene) (Maleic anhydride) (Catalysis)

IOFFE, I.I.; LYUBARSKIY, A.G.

Kinetics of heterogenous catalytic oxidation of maleic
anhydride. Kin.i kat. 4 no.2:294-298 Mr-Apr '63. (MIRA 16'5)

1. Nauchno-issledovatel'skiy institut organicheskikh poluproduktov
i krasiteley imeni K.Ye. Voroshilova.
(Maleic anhydride) (Oxidation) (Catalysis)

ACCESSION NR: AP4012976

S/0020/64/154/004/0903/0906

AUTHORS: Ioffe, I.I.; Yezhkova, Z.I.; Lyubarskiy, A.G.

TITLE: Concerning the mechanism of organic compounds oxidation over solid nonmetallic catalysts

SOURCE: AN SSSR. Doklady*, v. 154, no. 4, 1964, 903-906

TOPIC TAGS: solid nonmetallic catalyst, oxidation catalyst, pi catalyst, sigma catalyst

ABSTRACT: The present work is a discussion and derivation of laws based on the experimental work by A.G. Lyubarski (Candidate thesis, Moscow, 1963) and constitutes, therefore, the conclusions of the thesis. Oxidation of organic compounds consists of the following stages: 1. electron transition from reagent to catalyst (chemisorption), 2. Electron transmission from donor (reagent) to acceptor (oxygen), 3. incorporation of electrons by the oxygen molecule (chemisorption of O) forming O-ion, and 4. Interaction of organic ion with the O-ion and the formation of the oxidation product. The

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ACCESSION NR: AP4012976

first stage is a complex formation with filling of d-orbits of cations. The capacity of catalysts to form π -complexes on their surface in contact with hydrocarbons having double and triple bonds depends on the acceptor capacity of the catalyst. Stage 2 is achieved by straight interaction of electrons with oxygen, re-charging of ions and zonal conductivity (in π -activated catalysts). Stages 3 and 4 are not discussed in the article, which concludes with some recommendations on how to synthesize selective σ -activating catalysts which do not destroy the double C=C bond during oxidation. Orig. art. has: 2 figures, 1 formula, no tables.

ASSOCIATION: Nauchno issledovatel'skiy institut organicheskikh poluproduktov i krasiteley (Scientific Research Institute of Intermediates and Dyes)

SUBMITTED: 01Aug63

DATE ACQ: 26Feb64

ENCL: 00

SUB CODE: CH

NO REF SOV: 006

OTHER: 004

Card 2/2

• YEZHKOVA, Z.I.; IOFFE, I.I.; KAZANSKIY, V.B.; KRYLOVA, A.V.; LYUBARSKIY,
A.G.; MARGOLIS, L.Ya.

Activity, structure and the electric properties of mixed
vanadium catalysts. Kín. i kat. 5 no.5:861-867 S-O '64.
(MIRA 17:12)

1. Nauchno-issledovatel'skiy institut organicheskikh poluprovod-
nikov i kras'iteley i Institut khimicheskoy fiziki AN SSSR.

LYUBARSKIY, A. I.

Feeding and Feeding Stuffs

Practice of the feed supply brigade of the Khrushchev Collective farm.
Korm baza 3 no. 5, 1952.

MONTHLY LIST OF RUSSIAN ACCESSIONS. Library of Congress, September 1952. UNCLASSIFIED.

LYUBARSKIY, M.A.
ODINTSOV, Georgiy Nikolayevich; SHTODA, Sergey Pavlovich; LYUBARSKIY, Aleksey
Leonidovich; BUBNOV, Ye.S., red.; BOROVLEV, V.A., red., SERGEYEVA, N.A.,
red.izdatel'stva; FEN'KOVA, S.A., tekhn.red.

[The SBU-150-ZIV mobile boring apparatus; description of and
directions for operation] Samokhodnaia burovaia ustanovka SBU-150-ZIV;
opisanie i rukovodstvo po ksplyatatsii. Moskva, Gos.nauchno-tekhn.
izd-vo lit-ry po geol. i okhrane neдр, 1957. 95 p.(MIRA 10:12)
(Boring machinery)

KARAPETIAN, Gurgen Beybutovich; ZVORYKIN, Serafim Vasil'yevich;
Prinimali uchastiye: YURCHENKO, P.I.; LEVIN, R.R.; LUBENSKIY,
V.D., kand.tekhn.nauk. LYUBARSKIY, A.I., retsenzent; SOLOLOVSKIY,
V.I., red.; DUGINA, N.A., tekhn.red.

[Deep well drilling rigs] Burovye ustanovki glubokogo burenia.
Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 367 p.
(MIRA 14:1)

(Oil well drilling rigs)

ACCESSION NR: AE4040021

8/8271/64/000/004/A056/A056

SOURCE: Ref. zh. Avtomat., telemach. i vychisl. tekhn. Sv. t., Abs. 4A332

AUTHOR: Tsarkin, S. G.; Lyubarskiy, A. P.; Volkov, A. V.; Mishunin, D. A.

TITLE: Depth telemanometer for determining the rate of absorption of drilling fluid in a borehole

OTHER SOURCE: Tr. Kuybyshevsk. n.-i. in-t neft. prom-sti. vyp. 17, 1962, 97-105

1962 TAGS: telemanometer

ABSTRACT: The depth manometer (UMIP-3) which records the rate of absorption permits determining the conditional penetrability of rock and evaluating the possibility of steps taken to isolate an escape zone. Its operation depends on a telemanometer system. An inductive converter is used. Circuit diagrams are

... of steps taken to isolate an escape zone. The operation described was a
frequency talometer system. An inductive converter is used. Circuit diagrams are
given and explained in detail. The results are graphically illustrated. Field
tests of the instrument yielded satisfactory data. Seven illustrations.
Bibliography: 4 titles.

FORM 100: 20

ENCL: 00

Card 1/1

LYUBARSKIY, A.P.; AYZUPPE, E.A.

Determining the well-bottom parameters in electric drilling.
Trudy KNII NP no.17:106-110 '62. (MIRA 17:8)

TEMKIN, S.G. [deceased]; LYUBARSKIY, A.P.; BELOV, A.D.

Deep-well instrument for measuring drilling parameters with
a pulse-width telemetering system. Trudy KNII NP no.17:111-116
'62. (MIRA 17:8)

TEMKIN, S.G.; LYUBARSKIY, A.P.; BELOV, A.D.

Device for checking the axial load and torque in electric drilling.
Izv. vys. ucheb. zav.; neft' i gaz 4 no.11:89-93 '61.

(MIRA 17:2)

IOTKOVSKIY, Aleksandr Arturovich; KAMINSKIY, Matvey Fedorovich;
RABKINA, Ninel' Yefimovna; LYUBARSKIY, A.V., red.; SYDAK,
D.M., tekhn.red.

[Vending machines] Torgovye avtomaty. Moskva, Gos. izd-vo
torgovoi lit-ry, 1958. 126 p. (MIRA 11:12)
(Vending machines)

BUTENKO, V.G., inzh.; LYUBARSKIY, A.V., inzh.

Automation of the enterprises of large-scale public food service
abroad. Mekh.i avtom.proizv. 17 no.1:51-53 Ja '63. (MIRA 16:20)
(Restaurants, lunch rooms, etc.) (Automation)

LYUBARSKIY, B.N.; OL'SHA, A.M.

Hinge and cam gear bending machine for more than 90° flange
bending on sheet-metal parts. Kuz.-shtam. proizv. 5 no.9:
44-45 S '63. (MIRA 16:11)

LYUBARSKIY, B.N.; OL'SHA, A.M.

Movable lower die for the center punching of pipe. Kuz.-
shtam. proizv. 5 no.10:47-48 0 '63. (MIRA 16:11)

LYUBARSKIY, B.N.; OL'SHA, A.M.

Die for making shallow spherical parts. Biul.tekh.-ekon.in-
form.Gos.nauch,-issl.inst.nauch. i tekhn.inform. 16 no.10:33-
34 '63. (MIRA 16:11)

LYUBARSKIY, F.V.

LYUBARSKIY, F.V.

Compression testing of weak samples of building materials using
heavy-duty presses and diaphragm dynamometers. Rats. 1 izobr.
predl. v stroi. no.2:116-119 '57. (MIRA 11:1)
(Building materials—Testing)
(Dynamometer)

LYUBARSKIY, G. (Khar'kov)

Oil gets into the fuel. What should be done? Grazhd. av. 21
no. 11:26-27 N '64. (MIRA 18:3)

OFENGENDEN, R.G.; BEREZIN, F.N.; LYUBANSKIY, G.B.; SHALEYKO, M.A.

Two-dimensional amplitude-time spectrometer. Prib. i tekhn.
eksp. 9 no.5:81-87 S-O '64. (MIRA 17:12)

1. Institut fiziki AN UkrSSR.

LYUBARSKIY, G. D.

10

Catalytic chlorination of acetic acid. G. D. LYUBARSKIY. *Zhur. Prikladnoi Khim.* 2, 621-7 (1929). -- Perfectly dry Cl_2 (preferably electrolytic, which is purer) is passed from the bottom of the reaction vessel equipped with a reflux condenser and heated on a water bath. The reaction mixt. contains carefully frozen out AcOH , 1 l, 2 red P and 4% PCl_5 . PCl_5 is added just before connecting the reflux condenser to the app. to avoid the loss of AcCl formed. Cl_2 is started at a rate of 5 cc. per sec. to prevent the loss of low-boiling compds. This rate is gradually increased to 10-12 cc. per sec. [the size of the apparatus and the quantities of reagents are not given. -- Anstr.] On a com. scale much higher rates are feasible. Reaction is complete as soon as samples drawn from the vessel crystallize on cooling. The product is sepd. from the liquid on a Buchner funnel, washed 2-3 times with H_2O and then with a small quantity of glacial AcOH . The liquid is returned to the reaction vessel after addn. of 0.5 l. 1 red P and 2% PCl_5 . The $\text{CH}_3\text{CICO}_2\text{H}$ produced is a white cryst. powder and is well suited for further synthesis.

V. KALICHVANSKY

ASB-31.4 METALLURGICAL LITERATURE CLASSIFICATION

LYUBARSKY, G.D.

The utilization of fluorine from bone meal. G.D. Lyubarskii. Ukrainskii Khim Zhur, 5, Tech. pt., 163-5(1930).-Analyses of bones showed that they may contain 0.08 to 0.09% of F. The gases were caught in an alc. soln. of KCL, and the acid thus liberated was titrated with 0.04 N KOH. It is calcd. that from 25,000 tons of bone used for superphosphate 10 tons of F could be extd.

J.S. JOFFE

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LYUBARSKIY, G. D.

CX

Catalytic preparation of butyraldehyde and butanol from acetaldehyde. The preparation and hydrogenation of crotonaldehyde. M. Ya. Kagan, G. D. Lyubarskii and S. P. Fedorov. *J. Applied Chem. (U. S. S. R.)* 7, 135-44 (1934).—In the aldol condensation and the prepn. of crotonaldehyde in the presence of 2% alkali soln. at 21-30° the yield of crotonaldehyde amounted to 97% of the theory. BuOH and PrCHO were prepd. by hydrogenating crotonaldehyde in the vapor phase at 230-40° in the presence of a Cu catalyst. A. A. Bochtlingk

ASSOCIATED METALLURGICAL LITERATURE CLASSIFICATION

92

U-1

Intermediate stages in aldehyde oxidation.
III. Kinetics of the reaction between peracetic acid and aldehydes in aqueous solution. G. I. LEBARSKI and M. J. KAGAN (Acta Physicochim. U.R.S.S., 1935, 2, 665-678; cf. A., 1935, 1084).—The reaction had been studied in various concns. of aq. AcOH. The velocity coeff. in presence of H_2O_2 is $>$ in non-aq. solution due to acceleration of the second stage $OH\cdot CHMe\cdot O\cdot OAc \rightarrow 2AcOH$. In aq. MeCHO the velocity coeff. increases with H_2O content. The data do not support Wieland's hypothesis (A., 1932, 722). T. G. P.

T. G. P.

ASME STEEL METALLURGICAL LITERATURE CLASSIFICATION

METALLURGICAL LITERATURE CLASSIFICATION									
FROM SYNTHESE					FROM BOMINIV				
SYNTHESIS					BOMINIV				
<p>LYUBARSKIY, G. D.</p> <p><i>ca</i></p> <p>Ketones. M. Ya. Kagan and G. D. Lyubarskiy. Russ. 87,803, Sept. 30, 1940. Ketones are formed from secondary alca. by dehydrogenation in the presence of an Cu-Al catalyst.</p> <p><i>10</i></p>									

BC

A-3

Catalytic dehydrogenation of Ethane. C. D. Linbardt (*J. Phys. Chem. Res.*, 1940, 14, 1578).—When 1800 l. of C_2H_6 are passed through 1 l. of $Cr_2O_3 + Al_2O_3$ (or of $V_2O_5 + Al_2O_3$) per hr. at 525–575° and atm. pressure, 800 l. of C_2H_4 are formed and 120–220 l. of C_2H_2 are used for other reactions. C deposited on the catalyst is periodically burnt out in an air current. J. J. H.

ASB-11A METALLURGICAL LITERATURE CLASSIFICATION

FROM STUDYING

FROM BOMBY

1911171 ONE ONLY 151

METALLURGICAL LITERATURE CLASSIFICATION		AND PROPERTIES INDEX	
<p>Vanadium oxides used as hydrogenation and dehydrogenation catalysts. (3. 1). Lyubarskii and M. Ya. Kagan. <i>Compt. rend. acad. sci. U. R. S. S. S. 29, 675-6(1940)</i> (in English).--Doyal and Brown (<i>C. A. 26, 3721</i>) attempted the use of V oxides as hydrogenation catalysts for the reduction of PhNO₂ to PhNH₂, and demonstrated an increased capacity in the hydrogenating property of V₂O₅ with the degree of reduction. Previous treatment of V₂O₅ with H₂ at 400° effected a 91.8% yield of PhNH₂ in the gaseous phase at 400°. L. and K. continued the studies of V₂O₅ on several reactions of which only the following dehydrogenation results are reported: dehydrogenation of cyclohexane, catalyst V₂O₅ deposited upon specially prepd Al₂O₃, 1-10, reduced 3 hrs. at 600°; temp. of expt. 475°; flow rate 200 cc. C₆H₁₂ per l. catalyst per hr.; gas formed, 154 cc. per cc. C₆H₁₂ per hr.; compn. 80.3% H₂, 12.7% CH₄, (CH₃)₂ 1%; 20% C₄H₈ in condensate. In an empty quartz tube at the same temp. and same space velocity, no decompn. of C₆H₁₂ occurred. With butane at 575°, and Al₂O₃ + 5% V₂O₅, space velocity of 700 l. per l. of catalyst per hr., 20.8% butylene in gas, or 82% theoretical yield; at 575°, and Al₂O₃ + 10% V₂O₅, space velocity 1300, 21.0% butylene or 82% theoretical yield; changing space velocity to 1800, 20.0% butylene or 88% theoretical yield. A quartz tube was employed and the catalyst was previously ignited for 2-3 hrs. at 550-600° before a run. The exhausted catalyst is regenerated by oxidation with air. The productivity of pure Al₂O₃ employed as a catalyst is several times lower compared to that of the V₂O₅ catalyst and the yield is less than 50%. Dehydrogenation of ethylbenzene to styrene: In a quartz tube with Al₂O₃ + 2% V₂O₅ at 630°, 3000 g. PhEt per l. of catalyst per hr. yielded 40% styrene; with Al₂O₃ + 5% V₂O₅, 630°, and 3800 g. PhEt per l. of catalyst per hr., 40% styrene in condensate; similarly for pure Al₂O₃ at 630° and 2700 g. PhEt per l. catalyst per hr., 31.6% styrene in condensate. Thus the yield of styrene was 75-80% of the theoretical based on the PhEt used.</p> <p style="text-align: right;">W. A. Cook</p>		<p>10</p>	

Mechanism of the catalytic synthesis of divinyl from ethyl alcohol. M. Ya. Kagan, G. D. Lyubarskii, and O. M. Podurovskaya (Karpov Physicochem. Inst., Moscow). *Bull. acad. sci. U.R.S.S., Classe sci. chim.* 1947, 173-81 (in Russian). — The catalytic reaction $2\text{EtOH} \rightarrow \text{H}_2 + 2\text{H}_2\text{O} + \text{CH}_2=\text{CHCH}=\text{CH}_2$ (I) is assumed to proceed through MeCHO , its condensation into crotonaldehyde, $\text{MeCH}=\text{CHCHO}$ (II), and conversion of the latter into I; this assumed mechanism was tested experimentally. (1) On a mixed Lebedev catalyst, MeCHO at 300° gave 15% II; this product can be detected only if the MeCHO is dild. with N_2 , otherwise resinification prevents detection. (2) Conversion of II into I was obtained at $355-390^\circ$; on ZnCrO_2 , 72 + kaolin 28%, at 380° , 0.158 mole/hr., molar ratio $\text{H}_2:\text{II} = 14.9$, yield of I = 15.6 mole %; about the same yield with II 60% + H_2O 40%; the same concn., on a ZnCrO_2 , 70 + anhyd. $\text{KAl}(\text{SO}_4)_2$, 30% catalyst, gave 22% I. (3) Substantially better yields are obtained in conjugate dehydrogenation of an alc. and conversion of II on the same catalyst, thus, with mixts. of II and PrOH ; the latter alone gives no I. At 400° , on ZnO 70 + kaolin 30%, with $\text{PrOH}:\text{II} = 1:1.91$ moles, the yield of I was 23.5%; at the same temp., on a Lebedev catalyst with 20% of the dehydrogenating and 70% of the hydrogenating component, $\text{PrOH}:\text{II} = 1:0.085$ mole, the yield of I was 43.5%. (4) Under conditions of conjugate reactions, I is formed also from MeCHO directly; thus, on the above Lebedev catalyst, at 400° , $\text{PrOH}:\text{MeCHO} = 1:0.163$ mole, gave 42.9% I, but $\text{PrOH}:\text{MeCHO} = 1:0.43$ gave only 21.0% I; the yield is the better, the lower the amt. of MeCHO with respect to PrOH . (5) Similar yields of I are obtained in conjugate reactions on Al_2O_3 catalysts;

only the tech. product (De Haën) was active, while chemically pure pptd. Al_2O_3 had only a very low activity. On the tech. Al_2O_3 , at 430° , the yields of I (in % of the theory) were: from pure EtOH , 1.8%; from $\text{EtOH}:\text{MeCHO} = 1:0.59$ mole, 33%; from $\text{EtOH}:\text{II} = 1:0.17$, 40.7%; from $\text{EtOH}:\text{II} = 1:0.086$, 65.4%; from $\text{PrOH}:\text{MeCHO} = 1:0.16$, 12.5%; from $\text{EtOH}:\text{II} = 1:0.086$, 24.5%. Proof of the assumption that I is formed from MeCHO by way of condensation into II is seen in the much higher yields of I from alc. + II as compared with the yield from alc. + MeCHO . The higher yield from $\text{EtOH} + \text{II}$ as compared with that from $\text{PrOH} + \text{II}$ indicates that I is also formed from the MeCHO produced from EtOH whereas none is formed from PrOH . In the conjugate reaction, the role of the alc. is that of a donor of H atoms which hydrogenate II. That such a conjugate reaction is possible is due to the fact that activated adsorption of H begins at 300° , whereas its desorption and evolution of H_2 is significant only at about 500° ; thus, the temp. range $400-450^\circ$ is favorable to conjugate dehydrogenation-hydrogenation. (6) The expts. demonstrate that the mechanisms of the catalytic formation of I from EtOH and from $\text{EtOH} + \text{MeCHO}$ are identical, both reactions proceeding through the intermediate MeCHO and II.

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GT 28

Tritium

285. The radioactive isotope of hydrogen (tritium) and its applications as an indicator in chemical reactions. G. D. Liubarskii, *Progress in Chemistry*, 16, p. 422-442, July and August, 1947. (In Russian).
70 references. (BLP)

LYUBARSKIY, G-D.

3

✓ Mechanism of the catalytic action of aluminosilicate catalysts. G. D. Lyubarskiy and M. P. Korovin. *Problemy Kinetiki i Kataliza, Akad. Nauk S.S.S.R. 6, Geterogenyye Katalizy, 2/3-80(1949)*.--Since highly purified gels of Al_2O_3 and SiO_2 are not electrolytes and have no cataphoretic charge, they should be unable to act as proton donors in catalyzing the cracking of hydrocarbons. Both gels, as well as a mixt. of the gels, were purified by electrodialysis until their cond. decreased to 1.7×10^{-4} mhos. The gels retained their specific porosity and surface area. The purified catalyst was found to be inactive for cracking of isopropylbenzene at $400-500^\circ$ with a contact time of 5 sec.; some activity developed at a later stage. After regeneration with air, the induction period reappeared again. Very small amts. of acids restored the activity of the dialyzed catalysts. The restored activity was not impaired by evacuation to 10^{-4} mm. Hg at 550° for 6 hrs. Aluminosilicate catalysts could also be made inactive by treatment with caustic. In one case complete poisoning was reached at a concn. of 10^{-4} g. equiv. caustic/g. of catalyst. The activation energy changed from 14 kcal. for the non-poisoned catalyst to 21 kcal. after caustic poisoning, indicating that the poisoning is not caused merely by a decrease of the active surface, but by gradual and selective neutralization of the active centers. The activity of the poisoned catalyst could be restored by treatment with an equiv. amt. of acid, but not by washing with H_2O . Similar poisoning and restoration was observed also in the case of catalytic dehydration of $EtOH$ on the aluminosilicate catalysts. Thus, adsorbed acids are responsible for the catalytic activity of these catalysts. Andrew Dravnieks

LYUBARSKIY, G. D.

USSR/Chemistry - Physical chemistry

Card 1/1 : Pub. 147 - 13/21

Authors : Pshezhetskiy, S. Ya.; Lyubarskiy, G. D.; Shcheglova, N. A.; and Merilyaynen, S. K.

Title : Relation between the kinetics of catalytic dehydrogenation of hydrocarbons and the structure of the latter. Part 3.- Comparison of kinetics data for n-butane and n-butylene; probable mechanism of dehydrogenation reaction

Periodical : Zhur. fiz. khim. 8, 1458-1464, Aug 1954

Abstract : The difference between the reaction of n-butane and n-butylene dehydrogenation kinetics and the reaction of these hydrocarbons with the catalyst was established by comparing kinetics data. The presence of a double C=C bond in the butylene molecule was considered to be the basic cause for a more intensive reaction of this hydrocarbon in comparison with that of n-butane. The formation of intermediate surface compounds of the adsorbed radical type and consequent separation of the second H-atom was thought to be the most probable reaction mechanism. Three references: 2-USSR and 1-USA (1948-1954). Tables; graphs.

Institution : The L. Ya. Karpov Physico-Chemical Institute, Moscow

Submitted : November 13, 1953

USSR/ Chemistry Physical chemistry

Card : 1/1 Pub. 147 - 14/25

Authors : Lyubarskiy, G. D., Merilyaynen, S. K., and Pshazhetskij, S. Ya.

Title : Kinetics of dehydrogenation of n-butane

Periodical : Zhur. fiz. khim. 28/7, 1272 - 1279, July 1954

Abstract : The kinetics of dehydrogenation reaction of n-butane over an aluminum-chromate catalyst, was investigated at 460 - 500° and partial butane pressures of 0.1 - 1 atm. Equation, describing the kinetics of the dehydrogenation reaction, is presented. The activation energy of the dehydrogenation reaction was established at 40,000 ± 1,000 cal./mol. The reduction in the rate of butane dehydrogenation, due to the addition of butylene and H₂, is presented graphically. The inhibiting effect of H₂ and butylene, is explained. Five references: 3 USA; 1 English and 1 USSR (1944 - 1954). Tables.

Institution : The L. Ya. Karpov Physico-Chemical Institute, Moscow

Submitted : November 13, 1953

LYUGARSKIY, G. D.

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Chern

1529. THE RELATION OF HYDROCARBON STRUCTURE AND THE KINETICS OF CATALYTIC DEHYDROGENATION. Lyugarskiy, G.D., Lyugarskiy, G.D., Gorchagova, N.A., and Gorchagova, N.A. (Moscow Acad. Sci. USSR, 1955, "Problems of Chemical Kinetics, Catalysis and Reactivity" (Khimicheskoi Kinetiki, Kataliza i Reaktivnosti) 1, 535-547; abstr. in Chem. Abstr., 1956, vol. 50, 10387). It was found that the kinetics of the dehydrogenation of n-butene are represented by a different equation than those of n-butylene, and that considerable differences exist in the apparent activation energy values for the two compounds. These variations point to a considerable difference in the interaction with the catalyst, and the much more energetic action of n-butylene is a directly due to its double bond. The available data indicate that the probable mechanism of this reaction includes the formation of intermediate surface compounds, similar to free radicals, followed by the splitting off of the second hydrogen. Kinetic equations derived from such a scheme, and an effective catalytic activity of the catalyst surface, are in satisfactory agreement with experimental data.

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LYUBARSKIY, G.D.

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Physics - Chem. Inst. im L. Ya. Karpov

LYUBARSKIY, G.D.

7 7 7 7
 Kinetics of butene hydrogenation on chromium-alumina catalysts. G. D. Lyubarskiy, S. K. Ermlakova, and S. Ya. Pukhetskii. *Dokl. Akad. Nauk SSSR*, 1987, 287, 1937. *Zhur. Fiz. Khim.*, 31, 1492-1494, 1957; *Chem. Abstr.*, 52, 7937f. — The kinetics was studied dynamically, the flow-rate and compn. of the gas mixt. being varied at const. pressure. The catalyst was treated at standardised conditions (by passing N_2 and H_2 over it at 80° for 30 min. at a const. rate, and cooling in H_2). Tests with catalyst granules of different sizes showed that with granules < 1 mm., diffusional inhibition was no longer effective, and all tests were made with 0.8-0.9 mm. catalyst size at $220-400^\circ$. The exptl. reaction rate was $w = k C_{H_2} C_{C_4H_6}$, where C_{H_2} and $C_{C_4H_6}$ are the H_2 and C_4H_6 concns. The apparent activation energy for butene hydrogenation is 10,000 cal./mol.; whereas the apparent activation energy for butene dehydrogenation is $40,000 \pm 1500$ cal./mol. The heat effect of the dehydrogenation reaction $40,000 - 10,000 = 30,000$ cal./mol. agrees with the value found by Kistiakowsky, et al. (C.A.B. 29, 4254').
 Distr: 4E1j/4E2c/4E2c(j)

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pag 1

LYUBARSKIY, G.D.

LYUBARSKIY, G.D.; YERMAKOVA, S.K.

The effect of adsorption characteristics on the efficiency of chromium-aluminum catalysts in the dehydrogenation of hydrocarbons [with summary in English]. Zhur.fiz.khim. 31 no.9:2052-2060 (MIRA 11:1)
S '57.

1.Fiziko-khimicheskiy institut im. L.Ya. Karpova.
(Dehydrogenation) (Hydrocarbons)

AUTHOR: Lyubarskiy, G. D., (Moscow) 74-27-3-5/7

TITLE: Catalytic Dehydration of the Lowest Paraffin Hydrocarbons
(Kataliticheskoye degidrirovaniye nizshikh parafinovykh
uglevodorodov)

PERIODICAL: Uspekhi Khimii, 1958, Vol. 27, Nr 3, pp. 316-352 (USSR)

ABSTRACT: The preparation processes of mineral oil hydrocarbons for the production of precious chemical products became of increasing importance in the course of the last 10-15 years. Therefore, one of the most important tasks of Soviet Chemical Sciences is the conversion of paraffin hydrocarbons into olefins and diolefins by means of dehydration. The conditions of the equilibrium of the reaction of dehydration of lowest paraffins are unfavourable because very temperatures are necessary for the conversion of the paraffins. Due to this fact the paraffin molecule (binding C-C) decomposes at simultaneous formation of lowest paraffins and olefins (diagram 1, pyrolysis and dehydration of the n-butane is illustrated on table 1). The conversion of n-butane into butylene and then into butadiene leads to the most simple production of divinyl

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Catalytic Dehydration of the Lowest Paraffin
Hydrocarbons

74-27-3-5/7

(for the caotchouc synthesis from crude mineral oil). Al= ready Frey and Huppke (Ref. 10) investigated experimental= ly the equilibrium of the reaction: $C_4H_{10} \rightleftharpoons C_4H_8 + H_2$. 3 buty= lene isomers (the formation of equilibrium of it is illustra= ted on diagram 2) are obtained in n-butane-dehydration. More= over, the author deals with the investigation of the cata= lysts. Since metallic catalysts cannot be used at high tempe= ratures molybdenum, chromium, zinc, titanium and manganese oxides were investigated. These catalysts show weak selecti= vity. Also aluminum oxide proved to be very suited as cata= lyst (Table 2). Dehydration on $V_2O_5-Al_2O_3$ catalysts is illu= strated on table 3; table 4 illustrates the compound of the gas in butane dehydration on $V_2O_5-Al_2O_3$. Then follows a des= cription of the chromium-aluminum catalysts: maximum content of chromium oxide (see table 5). Promotion of chromium alumi= num catalysts by oxides of the alkaline metals (Table 6 and diagram 3). On the influence of beryllium on the properties of the catalyst (Table 7) and the comparison of stability

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Catalytic Dehydration of the Lowest Paraffin
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of the catalysts (Table 8). The methods of the preparation of the catalysts are discussed in a special chapter (diagrams 4 and 5), furthermore, the porous structure of aluminum oxide and the catalysts. The influence of calcination on the properties of a finely porous sample of aluminum oxide (see table 9). The isotherms of adsorption and the structure of the pores, the changes of the surface quantities and the activity of the chromium nickel catalysts, the influence of carbon deposit (see diagrams 6-9) are discussed. Special chapters are dedicated to the influence of the granula, the dispersion of chromium oxide and the magnetic measurements (diagram 10, 11 and 12). The author discusses the influence of oxygen and the steams as well as the dependence of isobutane on the humidity of gas in a special chapter. Concluding the author discusses catalytic activity and electric conductivity of chromium oxide, the kinetics of the dehydration process of butane, the dehydration of isobutane, propane and of the pentanes in separate chapters.

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There are 24 figures, 29 tables and 118 references. 42

Catalytic Dehydration of the Lowest Paraffin
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74-27-3 5/7

of which are Soviet.

1. Methanes--Dehydration

Card 4/4

LYUBARSKIY, G.D.; IVANOVSKAYA, L.I.; ISAYEVA, G.G.

Catalytic activity of nickel catalysts. Part 1: Properties of
alloy catalysts. Kin.i kat. 1 no.2:260-266 JI-Ag '60.
(MIRA 13:8)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova.
(Catalysts, Nickel)
(Aluminum-nickel alloys)

88243

S/195/60/001/003/007/013
B013/B058

18.1153

AUTHORS: Lyubarskiy, G. D., Ivanovskaya, L. N., Isayeva, G. G.,
Layner, D. I., Kagan, N. M.

TITLE: Study of the Catalytic Activity of Nickel Catalysts.
II. Effect of the Admixtures of Transition Metals

PERIODICAL: Kinetika i kataliz, 1960, Vol. 1, No. 3, pp. 385 - 392

TEXT: In this paper the authors studied the effect of admixtures of transition metals to the nickel on its catalytic activity. It was the aim of the paper to clarify the effect of these admixtures to the alloy of nickel with aluminum or silicon on the specific activity of the skeleton catalysts obtained after the leaching out of aluminum. Series of nickel-aluminum alloys were prepared with various amounts of metal admixtures (titanium, chromium, vanadium, molybdenum, iron, copper, and cobalt) and with the same aluminum content (50% by weight). These ternary alloys were crushed, leached out, and tested according to the method described in Ref. 1. The activity of the samples was determined in a

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Study of the Catalytic Activity of Nickel
Catalysts. II. Effect of the Admixtures
of Transition Metals

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continuous-flow circulation apparatus by means of benzene hydrogenation. The experiments were conducted at temperatures of 27°, 32°, and 38°C and a hydrogen feed rate of 7 l/h per 1 cm³ catalyst. The initial benzene concentration was 1.5 mmole per 1 l benzene-hydrogen-vapor mixture. The surface was determined by means of the BET method after the adsorption of nitrogen. The studies showed that the addition of chromium, titanium, molybdenum and vanadium affects the activity of nickel aluminum catalysts only slightly. The thermal stability of the samples is sufficiently high. The catalytic activity of samples with chromium- and titanium content is even increased through treatment with hydrogen at 200°C. The samples with molybdenum content are, however, less stable when heated and show reduced activity already at 150°C. The specific activity of nickel remains practically unchanged with an addition of up to 20 to 30 at% metal and on an average amounts to $1.7 \cdot 10^{-4}$ mol/h·m² at 38°C. The activity related to 1 g catalyst shows a slight increase (by 15 to 20%) for smaller amounts of admixtures (up to 5 to 7 at%). The observed steadiness of the specific

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activity of the catalysts studied can be explained by the fact that the metal admixtures mentioned form solid phases with nickel only to a limited extent. A study of the changes of the nickel-crystal parameter showed that through the addition of 3 at% titanium, 6 at% aluminum, 8 at% vanadium or 10 at% chromium, the lattice is only changed by 0.01 Å. In some cases (chromium, titanium), these admixtures cause an improvement of the properties important for the practice, such as stability, mechanical strength of the granules etc. The high activity of the alloyed catalysts studied permits to carry out the hydrogenation of benzene at temperatures close to room temperature. It was shown that with respect to their activity, the skeleton catalysts surpass other known nickel catalysts which were obtained through reduction of nickel oxides or -salts. The energy of activation, calculated from the temperature coefficients, remains almost constant and amounts to about 12 ± 1 kcal/mol, independent of the composition. The constancy of the energy of activation, observed in all catalysts studied, points towards a possibly equal mechanism of this reactions. On the addition of cobalt and iron, similar results were ob-

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Study of the Catalytic Activity of Nickel
Catalysts. II. Effect of the Admixtures
of Transition Metals

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tained as for other metals. There are 5 figures, 6 tables, and 11 refer-
ences: 5 Soviet, 4 US, 1 Belgian, 3 British, 1 French, and 1 German. X

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova
(Physicochemical Institute imeni L. Ya. Karpov)

SUBMITTED: December 26, 1959

Card 4/4

S/195/60/001/004/010/015
B017/B055

AUTHORS: Layner, D. I., Kagan, N. M., Lyubarskiy, G. D., Isayeva, G. G.

TITLE: The Effect of Copper on the Catalytic Properties of a
Skeleton Nickel Catalyst

PERIODICAL: Kinetika i kataliz, 1960, Vol. 1, No. 4, pp. 576-582

TEXT: The authors investigated the decrease of catalytic activity, magnetic susceptibility, and specific surface produced by dissolving out aluminum from catalysts with increased copper content formed from Al-Ni-Cu alloys. The dependence of magnetic susceptibility and activity of skeleton catalysts (Cu + Ni) on the copper content is shown graphically in Fig. 1. Fig. 2 represents the phase diagram of Al-Ni-Cu alloys according to Köster (Ref. 9). The finely ground Al-Ni-Cu alloys were leached out with 20% NaOH at 98-100°C. The phase composition of leached alloys was examined radiographically. The relative results appear in Fig. 3. Catalytic activity was determined by hydrogenation of benzene and the specific surface by the BET method. The data obtained are tabulated. The activation energy of the catalysts in hydrogenation of benzene was

Card 1/2

The Effect of Copper on the Catalytic
Properties of a Skeleton Nickel Catalyst

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B017/B055

fairly constant at copper contents of 0 to 15 % by weight. The rapid decrease in magnetic susceptibility and catalytic activity observed in the case of leached alloys with increased copper content is due to a decrease in the content of metallic nickel, which forms only from the ϵ phase the content of which, however, rapidly decreases at 20% Cu. There are 5 figures, 1 table, and 10 references: 1 Soviet, 3 US, 3 British, and 3 German.

ASSOCIATION: Institut Giprotvetmetobrabotka (State Design and Planning Scientific Research Institute for Working of Nonferrous Metals). Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical Institute imeni L. Ya. Karpov)

SUBMITTED: February 20, 1960

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LYUBARSKIY, G.D.; KUL'KOVA, N.V.; BURSHTEYN, R.Kh.; ISAYEVA, G.G.;
IVANOVSKAYA, L.N.; SHURMOVSKAYA, N.A.

Specific activity of nickel catalysts and thiophene adsorption. Dokl.
AN SSSR 140 no.3:634-633 S '61. (MIRA 14'9)

1. Fiziko-khimicheskiy institut im. L.Ya. Karpova. Predstavleno
akademikom S.S.Medvedevym.
(Thiophene) (Adsorption) (Nickel)

S/195/62/003/001/007/010
E071/E136

AUTHORS: Lyubarskiy, G.D., Avdeyeva, L.B., and Kul'kova, N.V.

TITLE: An investigation of the process of poisoning of
nickel catalysts by thiophene

PERIODICAL: Kinetika i kataliz, v.3, no.1, 1962, 123-132

TEXT: The object of the work was to elucidate some regularities in the dependence of changes of the activity of a number of nickel catalysts on carriers on the amount of adsorbed thiophene sulphur, to determine the dependence of the complete sulphur capacity of a catalyst (limiting absorption of sulphur) on the surface area of nickel, temperature, presence of hydrogen, and other factors, and to explain the mechanism of poisoning of nickel with sulphur. The determinations of the activity of catalysts and its changes on poisoning were carried out in a flow circulating apparatus for hydrogenation of benzene (rate of supply of benzene 2-8 ml/hour) at 100-150 °C. The concentrations of thiophene varied from a few hundredths to 0.001%. The apparatus and experimental procedure are described in some detail. The catalyst studied: nickel from formate and

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An investigation of the process... S/195/62/003/001/007/010
EO71/E136

oxalate, nickel on chromium oxide, magnesia, carbon and alumina, Raney nickel. It was shown that in the absence of diffusion inhibition the decrease in the activity of the catalysts varies linearly with the amount of the adsorbed poison and the energy of hydrogenation of benzene on poisoning remains the same. A method of determining the differential surface area of nickel in catalyst (i.e. of nickel alone, excluding the carrier and other additives) by chemisorption of oxygen was developed. This permitted the calculation of sulphur capacity of nickel per unit of surface area. The specific sulphur capacity and specific activity were found to be approximately constant for a number of complex catalysts. However, catalysts containing aluminium oxide (fused nickel and nickel on aluminium oxide) possess a higher specific activity which is apparently due to the promoting influence of aluminium or alkali in this reaction. Therefore, the measurements of thiophene adsorption can be used as a method of measuring the surface area of nickel. Linear dependence of the activity on the amount of adsorbed poison, constancy of the activation energy, constancy of specific values for sulphur

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An investigation of the process ...

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E071/E136

capacity and activity of a unit of surface area of nickel in a number of catalysts lead to the conclusion that the surface of nickel in the catalysts studied is practically uniform. The following scheme of poisoning nickel and other metallic catalysts by thiophene is proposed: molecule of thiophene reaching the surface of nickel is strongly adsorbed in flat position binding five surface atoms of nickel. This adsorption is so strong that a prolonged circulation of pure hydrogen through the catalyst does not lead to desorption of thiophene. At elevated temperatures hydrogenation of thiophene to thiophane takes place. The latter also remains adsorbed on nickel, only in this case the thiophane molecule is held on nickel through the sulphur atom, while the remaining saturated part of the molecule is desorbed, freeing a part of the surface for further adsorption. The amount of thiophene which can be additionally adsorbed in this way does not correspond to the whole freed surface, probably due to a steric effect. On further increase of the temperature to 300-350 °C a more severe hydrogenation of

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An investigation of the process ... S/195/62/005/001/007/010
E071/E136

thiophene takes place with the breaking off of the saturated organic part of the molecule from strongly bound sulphur (butane or its decomposition products). The above indicates the possibility of the application of nickel catalysts for purification of benzene and other solvents from sulphurous admixtures.

There are 11 figures and 3 tables.

ASSOCIATION: Fiziko-khimicheskiy institut im L.Ya. Karpova
(Physico-Chemical Institute imeni L.Ya. Karpov)

SUBMITTED: August 1, 1961

Card 4/4

LYUBARSKIY, G.D.; AVDEYEVA, L.B.

Poisoning of nickel catalysts with carbon disulfide. Kin. 1
kat. 4 no.3:409-415 My-Je '63. (MIRA 16:7)

1. Fiziko-khimicheskiy institut imeni Karpova.
(Nickel catalysts) (Carbon disulfide)

LYUBARSKIY, G.D.; YEVZERIKHIN, Ye.I.; SLINKIN, A.A.; Primala uchastiye
FEDOTOVA, G.A., studentka

Catalytic activity of solid solutions in the system nickel -
copper. Kin. i kat. 5 no.2:311-318 Mr-Ap '64. (MIRA 17:8)

1. Fiziko-khimicheskiy institut imeni Karpova.

LYUBARSKIY, G.D.; SNAGOVSKIY, Yu.S.

Catalytic method for the production of cyclohexane. Khim. prom.
40 no.9:643-649 S '64. (MIRA 17:11)

1. Nauchno-issledovatel'skiy fiziko-khimicheskiy institut imeni
Karpova.

SNAGOVSKIY, Yu.S.; LYUBARSKIY, G.D.; OSTROVSKIY, G.M.

Kinetics of benzene hydrogenation at atmospheric and higher pressures. Dokl. AN SSSR 161 no.1:132-135 Mr '65. (MIRA 18:3)

1. Fiziko-khimicheskiy institut im. L.Ya. Karpova. Submitted July 30, 1964.

YEVZERIKHIN, Ye.I.; LYUBARSKIY, G.D.

Catalytic activity of alloys of the nickel - cobalt system.
Kin. i kat. 5 no.5:952-955 S-O '64. (MIRA 17:12)

1. Fiziko-khimicheskiy institut imeni Karpova.

LYUBARSKIY, G.E.; GUTOV, P.P.; BYCHKOV, I.F.

Specification of standards for toothed and worm gears is needed.
Standartizatsiia 27 no.12:53 D '63. (MIRA 17:4)

BAKANOV, N.V.; LYUBARSKIY, G.E.; RYABININ, V.L.

Bibliography. Standartizatsiia 28 no.9:62-64 S '64.
(MIRA 18:2)

<p>LYUBARSKIY, G. L.</p>		<p>537.533.9</p>	
<p>SA <i>in file</i></p>		<p>A 53 9</p>	
<p>376. On the Cherenkov effect and the complex Doppler effect. A. I. Akhiezer, G. L. Lyubarskiy and Ya. B. Fainberg. Dokl. Akad. Nauk, USSR, 73 (No. 1) 55-8 (1930) In Russian.</p>			
<p>Mathematical. The emission of electromagnetic waves in the π Cherenkov effect is examined in the case of linear periodic structures. A general formula for intensity and the discrete frequency spectrum follows. The case of a cylindrical waveguide is also investigated. J. Jacobs</p>			
<p>ASS-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>		<p>VISION BOWERS</p>	
<p>FROM 11/11/1930</p>		<p>SELECT ONE ONE 111</p>	

LYUBARSKIY, G. YA.

Garmonicheskiy analiz na topologicheskoy mnogoobrazii s tranzitivnoy gruppoy.
Kazan', Dissertatsiya (1945)

SO: Mathematics in the USSR., 1917-1947
edited by Kurosh, A. G.
Markushevich, A. I.
Rashevskiy, P. K.
Moscow-Leningrad, 1948

LYUBARSKIY, G. Ya

Source: Mathematical Reviews.

Lyubarskiy, G. Ya. On the integration in the mean of almost periodic functions on topological groups. *Izvestiya Matem. Nauk* (N.S.) 3, no. 3(25), 195-201 (1943). (Russian)

It is shown that for any connected locally compact Abelian group G , the mean $M(f)$ of a continuous almost periodic function f on G , as defined by von Neumann, can be expressed as a limit of integrals analogous to those used by Bohr in defining the mean value of an almost periodic function on the reals. Specifically, there is an ascending sequence C_n of compact subgroups of G such that for any continuous almost periodic function f on G ,

$$\lim_{n \rightarrow \infty} (\mu(C_n))^{-1} \int_{C_n} f(x) d\mu(x)$$

exists and equals $M(f)$, where μ denotes Haar measure. This result follows easily from the Pontryagin-van Kampen structure theorem, according to which G is the direct product of a finite-dimensional real vector group and a compact group, a slightly more precise result having previously been obtained in this way by Kawada [Proc. Imp. Acad. Tokyo 19, 264-266 (1943); these Rev. 7, 240] (and as indicated by Kawada, the same result is valid for an arbitrary connected group with a separating family of continuous almost periodic functions, by virtue of the Freudenthal-Weil structure theorem for such groups). The present author, however, makes no use of structure theorems, his proof being based on a lemma proved by a direct argument, and which is also used to give a new proof of the following theorem (due to Gelfand and Raikov [C. R. (Doklady) Acad. Sci. URSS (N.S.) 28, 195-198 (1940); these Rev. 2, 217]). If G is a locally compact Abelian group, then the mapping $g \mapsto L_g$ from the character group G^* of G to the continuous linear functionals on $L_1(G)$, given by $L(g) = \int_G f(x) d\mu(x)$, is a homeomorphism of G^* into the conjugate space of $L_1(G)$, in its weak topology. *H. E. Segal* (Chicago, Ill.).

Smul
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